

(KINTSOVA, S.A.; VAULIN, Ye.P.

Use of a Fabry-Pérot interferometer with photoelectric recording
in measuring the velocities of particles in a rotating plasma.
Zhur. prikl. spkt. 3 no. 2:105-108 Ag '65. (MIRA 18:12)

1. Submitted March 1, 1965.

L 01290-66 ENT(1)/EPF(n)-2/ENG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5021486

UR/0386/65/003/002/0105/0108
537.531:535.3

AUTHOR: ^{35 44}Odintsova, G. A.; ^{35 44}Vaulin, Ye. P.

TITLE: Using a photoelectrically recording Fabry-Perot interferometer to measure the velocities of particles in a rotating plasma ^{21.44.55}

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 2, 1965, 105-108

TOPIC TAGS: plasma physics, interferometer, particle acceleration, gas discharge

ABSTRACT: The rotational velocities of atoms and ions were determined from the Doppler shift in spectral lines. A plasma accelerator of the acyclic type was used, operating in steady-state conditions. A high-current gas discharge (about 300 amps) was produced in argon at a pressure of 1 mm Hg between the cathode and the anode, which were made in the form of coaxial cylinders. The whole system was located in a homogeneous 800 oersted magnetic field parallel to the accelerator axis. The plasma in the anode (the outside electrode) was observed through slits. A Fabry-Perot interferometer-spectrograph combination was used for the observations. The interference pattern was recorded both photographically and photoelectrically. One of the

Card 1/4

L 01290-66

ACCESSION NR: AP5021486

photoelectric recordings for Ar I lines at 4158.6 \AA is shown in fig. 1 of the Enclosure. The Doppler shift due to plasma rotation was measured by recording the lines alternately from different sections of the accelerator located symmetrically on both sides of the cathode. The figure shows two systems of superimposed lines. The peaks marked "+" were recorded on one side of the cathode, while those marked "-" were recorded on the other side at an equal distance. The shift Δv in one system of lines with respect to the other is related to the linear velocity of rotation in a given annular layer of the plasma by the expression $\Delta v = v_0 \frac{2v}{c}$, where v_0 is the frequency of the spectral line and c is the velocity of light. The average error in measurements was $\pm 0.01 \text{ cm}^{-1}$, which corresponds to a particle velocity of approximately 100 m/sec. A comparison between the photoelectric and photographic methods in measurements of the distribution of velocities of argon ions is shown in fig. 2 of the Enclosure. Since line shape does not figure in the photographic method of measurement, the photoelectric method is preferable, particularly in cases where the lines are asymmetric. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 01Mar65

NO REF SOV: 003

Card 2/4

ENCL: 02

OTHER: 002

SUB CODE: ME

L 01290-66

ACCESSION NR: AP5021486

ENCLOSURE: 01

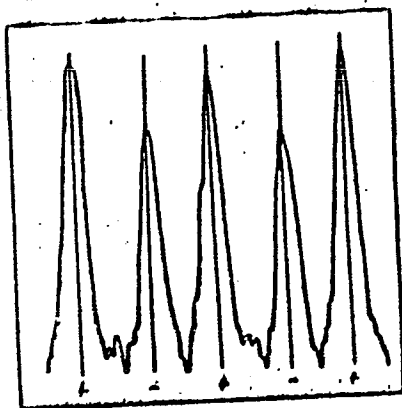


Fig. 1. Recording for Ar I lines at
4158.6 Å

Card 3/4

L 01290-66

ACCESSION NR: AP5021486

ENCLOSURE: 02

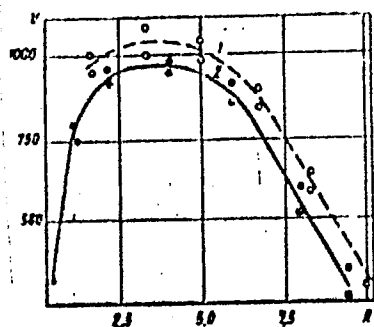


Fig. 2. Distribution of velocities v (m/sec) along the radius of the accelerator R (cm) measured by the photographic (1) and photoelectric (2) methods

Card 4/4

VAULIN Ye. P.

~~VAULIN, Ye. P.~~, and SHIROKOV, M. F.,

"Teheniya Neizotermichekoy Plazmy s Bol'shim. (High Velocity Non-Isothermal Plasma Flows)"

report presented at the Intl., Symposium on High Temperature Technology held at Asilomar, California, 8-11 Sep 63.

VAULIN, Ye.P.; GVOZDKOV, N.N.

Diffusion type thermal shielding by means of a porous plate in a gas dynamic flow through percolation of a liquid and physicochemical reaction in a laminar boundary layer. Zhur.tekh. fiz. 32 no.2: 238-247 F '62. (MIRA 15:2)

1. Kafedra statisticheskoy fiziki i mekhaniki Moskovskogo gosudarstvennogo universiteta, fizicheskiy fakul'tet.
(Heat--Transmission) (Gas flow) (Boundary layer)

I-21580-66 - EWT(1)/EWP(e)/EWT(m)/EPF(n)-2/EWG(m)/EWP(v)/EWP(j)/T/ETC(m)-6/EWA(1)
 ACC NR: AT6006912 SOURCE CODE: UR/0000/65/000/000/0198/0208

IJP(c) JD/IG/WW/JW/GS/RM/WH
 AUTHOR: Vaulin, Ye. P.

ORG: Moscow Aviation Institute (Moskovskiy aviatsionnyy institut)

TITLE: Some problems in the theory of a boundary layer with physicochemical transformations on a solid surface /

SOURCE: Teplo- i massopereenos. t. II: Teplo- i massopereenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 198-208

TOPIC TAGS: surface boundary layer, turbulent boundary layer, heat transfer, surface property, ionized gas

ABSTRACT: The author studies the exchange of heat and mass during physicochemical surface transformations due to the interaction between ionized gases and solids where recombination of charged particles may have a considerable effect. The results of this study may be used for analyzing heat and mass exchange in ionized

Card 1/2

L 21580-66
ACC NR: AT6006912

gases when there are no electrical or magnetic fields present. A complete system of equations is given for a laminar boundary layer in the general case including the diffusion equation for the i -th component of the mixture, as well as the equations of continuity, motion, and conservation of energy and state. Expressions are given for determining the total enthalpy, heat capacity, and specific enthalpy of the ideal gas which appear in this system of equations. These expressions are used for deriving a system of equations to describe steady-state processes in axially symmetric solids. The boundary conditions for the problem are analyzed and the case of a turbulent boundary layer with a zero pressure gradient on a sublimating surface is considered. Expressions are found for calculating the surface temperature, rate of disintegration, and concentrations of components. The resultant data may then be used for calculating the drag coefficient during turbulent flow close to a sublimating wall. Orig. art. has: 37 formulas. [14]

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 002/ ATD PRESS: 4219

Card 2/2 *ULR*

Name: VAULLEN, E. . .

Dissertation: The composition and distribution of light in some characteristic soils of USSR

Degree: Cand Biol Sci

Defended at
Affiliation: Acad Sci USSR, Botanical Inst imeni V. L. Komarov

Publication
Defense Date, Place: 1956, Leningrad

Source: 'Krizhnaya Letopis', No 45, 1956

VAULINA, E.N.

~~Basic~~ features of the algal flora of some soils of White Russia.
Vestsi AN BSSR Ser. biial. nav. no.1:5-15 '58. (MIRA 11:5)
(White Russia--Algae)

VAULINA, E.H.

Systematic position of the soil form of *Plectonema puteale*
(Kirchh) Hansg. Bot.mat.Otd.spor.rant. 12:19-22 Ja '59.
(MIRA 12:12)

(Algae) (Soil micro-organisms)

VAULINA, E. N.

Xanthophyta occurring in soils of White Russia. Bot.mat.Otd.
spor.rast. 12:98-106 Ja '59. (MIRA 12:12)
(White Russia--Algae) (Soil micro-organisms)

L 16-23-65 EWG(j)/EWG(r)/EWG(l)/ES(v)-3/EWG(v)/EWG(a)/EWG(c) pe-5/Pb-4/

Pa-4 AND DD

ACCESSION NR: AP5000095

S/0205/64/004/006/0883/0892

AUTHOR: Anikeyeva, I. D.; Vaulina, E. N.; Shevchenko, V. A.

TITLE: The action of ultraviolet rays on Chlorella

SOURCE: Radiobiologiya, v. 4, no. 6, 1964, 883-892

TOPIC TAGS: algae, Chlorella, UV radiation, mutation, population dynamics, genetics

ABSTRACT: Cultures of Chlorella vulgaris, terricola, and ellipsodea were exposed to UV radiation from two BUV-15 lamps. These lamps, which emit 80% of their energy in the 2537-A range, were placed 25 cm from the surface of 1-ml suspensions of the above algae. Exposure durations ranged from 30 sec to 16 min. It was found that sensitivity to UV varied according to the species. A "LARG-1" strain of Chlorella vulgaris was found to be the one most resistant to UV damage. In general, the viability curve, plotted as a function of the UV dosage, had a sigmoid shape. Mutation frequency as a function of the UV dosage was studied for the LARG-1 strain only and was found to increase to a

Coru 1/2

L 16623-65

ACCESSION NR: AP5000095

maximum level followed by a decrease as the dosage was further increased. It was concluded that UV acts on the irradiated cell for several generations, ultimately altering the entire dynamics of population growth. Orig. art. has: 7 tables and 8 figures.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR,
Moscow (Institute of Biological Physics, Academy of Sciences, SSSR)

SUBMITTED: 27Apr63

ENCL: 00

SUB CODE: LS

NO REF SOV: 002

OTHER: 026

ATD PRESS: 3147

Card 2/2

s/0217/64/009/003/0393/0394

ACCESSION NR: AP4038937

AUTHOR: Vaulina, E. N.; Anikeyeva, I. D.

TITLE: Evaluation of the productivity of Chlorella strains in liquid culture

SOURCE: Biofizika, v. 9, no. 3, 1964, 393-394

TOPIC TAGS: Chlorella strain, Chlorella productivity, Chlorella culture, non circulating medium, optimal productivity period, optimal productivity formula, autospore number, cell division duration, Chlorella growth coefficient

ABSTRACT: Growing of these algae in containers with a non-circulating medium while a mixture of CO₂ and air is blown through is a convenient culture method which is particularly adapted to the selection of strains. This however requires finding the time of optimal productivity, since productivity decreases rapidly in such a medium. The following formulas are presented for finding this period.

$$N_t = N_0 e^{kt} \quad (1)$$

where N₀ is the number of cells at the start, N_t the number of cells at time t; e, the natural logarithm; k, a constant depending upon the properties of the given organism and culture conditions, called coefficient of rate of growth.

Card 1/3

ACCESSION NR: AP4038937

$$k = \frac{1}{t} \log \frac{N_t}{N_0} \quad (2)$$

$$k = \frac{1}{T} \log [1 + x(a-1)] \quad (8)$$

a - number of autospores
x - number of dividing cells
T - duration of cell division cycle

The theoretical and experimental results are compared, and it was found that they agreed satisfactorily for the 1st and 2nd day of culture where productivity is optimal. The values a, T, and k are useful criteria for selection, and x an indicator of culture condition. Orig. art. has 1 table, 8 formulas, and 1 figure.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moscow (Institute of Biophysics, AN SSSR)

SUBMITTED: 04Jan63

ENCL: 00

Card

2/3

ACCESSION NR: AP4038937

SUB CODE: LS

NO REF SOV: 002

OTHER: 000

Card 3/3

VAULINA, E.N.; ANIKHEYEVA, I.D.

Evaluation of the productivity of *Chlorella* strains. *Genetika*
(MIRA 19:1)
no.5:176 N 1965.

1. Institut biologicheskoy fiziki AN SSSR, Moskva. Submitted
August 12, 1965.

VAULINA, E.N.; ANIKEYEVA, I.D.; SHEVCHENKO, V.A.

Effect of 1,4-bis-diazoacetylbutane and its combination with
ultraviolet rays on Chlorella. Genetika no. 6:56-60 D '65
(MIRA 19:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

ANIKEYEVA, I.D.; VAULINA, E.N.; SHEVCHENKO, V.A.

Effect of ultraviolet rays of Chlorella. Radiobiologia 4 no.6:883-
892 '64. (MIRA 18:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

L 11287-67 ENT(m)/ENT(t)/WTI ID: (c) JD
 ACC NR: AR60253380 SOURCE CODE: UR/0070/00/000/000/000/000/000
 AUTHOR: Adlesov, S. K.; Vasilina, Ya. P.
 TITLE: A method for silverplating steel components
 SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 35304
 REF SOURCE: Sb. Vopr. teorii i nadezhnosti apparatury i kanalov svyazi. Tashkent, Nauka, 1965, 140-141
 TOPIC TAGS: copper plating, metal plating, silver
 ABSTRACT: The article is a report on development of a simple and economic method for depositing a copper sublayer on steel components for subsequent silverplating. Before application of the copper coating, the components are degreased and scoured and then washed in water. The copper plating is done in an electrolyte with the following composition (in g/l): copper sulfate--31, ammonia--6.5, glycerin--18 and caustic soda--14. Any widely used method is then used for silverplating. [Translation of abstract]
 SUB CODE: 11

UDC: 621.357.7:669.212

Cord 1/1 jb

VAUMGARDT, I.

How to preserve lemons. Obshchestv.pit. no.12:11 D '60.
(MIRA 13:12)

1. Zaveduyushchiy proizvodstvom restorana "Altay," Ust'-Kamenogorsk.
(Lemon--Preservation)

VAUPSHASOV, STANISLAV ALEKSEYEVICH

Partizanskaya khronika. Moskva, Voenizdat, 1959.
470 p. illus. 21 cm.

MOZOLEVSKAYA, Ye.G.; VAVAK, Z.

The complex of insects feeding on leaves in the floodplain stands of the
Khop. Preserve. Trudy Khop. gos. zap. no.4:75-92 '61. (MIRA 16:3)
(Khop. Preserve—Forest insects)

NOVIKOV, A.N., prof.; GARIN, N.D., doktor med.nauk; GOL'BERT, Z.V.,
kand.med.nauk; VOLKOVA, M.A., kand.med.nauk; KISELEVA, Ye.S.,
kand.med.nauk; MATVEYEVA, T.N., kand.med.nauk; YAVAKIN, A.D.,
kand.med.nauk

Initial experience in the combined treatment of pulmonary
cancer. Khirurgiia no.8:22-28 Ag '62. (MIWA 15:8)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo onkologicheskogo
instituta imeni P.A. Gertsena (dir. - prof. A.N. Novikov) Mini-
sterstva zdravookhraneniya RSFSR.
(LUNGS--CANCER)

VAVAKIN, A.D.

Results of the preoperative use of chemotherapy in compound
treatment of pulmonary cancer. Antibiotiki 10 no.10:940-945
0 '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy onkologicheskii institut imeni
P.A. Gertsena Ministerstva zdravookhraneniya RSFSR, Moskva.
Submitted June 1, 1965.

VAVAKO, D.
ALBANIA / Diseases of Farm Animals. Diseases
Caused by Bacteria and Fungi

R-1

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7305

Author : Dhimiter Vavako
Inst : Not Given
Title : Enterotoxemia of Sheep

Orig Pub: Bul. Shkenc. natyr. 1956, No 2, 3-26 (Alb.;
rez. frants.)

Abstract: In Albania, the enterotoxemia of sheep was observed, losses from which reached 20 percent of the livestock. The causal agent - Bacillus paludis. Activation of the penetrative or saprophytic stimulant in the organism, is furthered by disturbances of gastric secretions, upon the eating of frozen feed, and changes in the organism connected with giving birth, therefore,

Card 1/2

VAVAKO, Dimitr, doktor

Veterinary service in Albania. Veterinariia 36 no.4:79-81 Ap '59.
(MIRA 12:7)

1.Direktor Albanskogo instituta veterinarnykh issledovaniy.
(Albania--Veterinary hygiene)

VAVANET, En.V. p. 222.

Detection circuits. work. Selva, E. 8 no. 64-10-17
Hy 164. 1964

VAVANOV, Yu.V.

Radar method for measuring the acceleration of uncoupled sections
in hump yards. Avtom., telem. i svyaz' 8 no.10:8-11 0 '64.

(MIRA 17:11)

1. Starshiy inzh. laboratorii radiosvyazi Vsesoyuznogo nauchno-
issledovatel'skogo instituta zheleznodorozhnogo transporta Mi-
nisterstva putey soobshcheniya.

VAVANOV, Yu.V., aspirant

Measuring the slowing down of the cuts in the braking position.
Vest. TSNII MPS 23 no.7:30-35 '64. (MIPA 18:3)

VAVAYEVA, L.A.; ARTEM'YEVA, V.V.

Periodicity of change in composition of oils and gases in
Devonian and Carbonaceous series in the Saratov Volga Valley
region. Geol. nefti i gaza 8 no.12:13-18 D '62. (MIRA 18:2)

1. Nizhnevolzhskiy nauchno-issledovatel'skiy institut geologii
i geofiziki.

ARTEM'YEVA, V.V.; VAVAYEVA, I.A.

Relation of the composition of Jivet oils in the Volga Valley
portion of Saratov Province to the geological conditions govern-
ing the existence of pools. Trudy NVNIIGG no.1:58-62 '64.
(MIRA 18:6)

MASHKOVICH, K.A.; VAVAYEVA, L.A.

Middle Devonian Riphean massifs in the Volga Valley protion of
Saratov Province. Geol.neft i gaza 6 no.10:47-50 0 '62.
(MIRA 15:12)

1. NVNIIGG.

(Saratov Province--Oil snads)

VAVCHUNOVSKAYA, M.A.

Study of chromatic fatigue in myasthenia. Trudy 1-go MMI 24:
147-150 '63 (MIRA 17:3)

MOKEYEVA, T.M.; VAVER, L.D.

Some data on the effect of zinc phosphide on the lesser suslik
kept in an area seeded with baits containing this poison.
Trudy VIZR no.12:130-137 '58. (MIRA 13:5)
(Zinc phosphide) (Susliks)

81554

S/062/60/000/05/03/000
B004/B066

5.3700C

AUTHORS: Mikhaylov, B. M., Vaver, V. A.

TITLE: Organoboron Compounds. 56. Synthesis of Trialkylborons
From Metaborates and Their Conversion Into Dialkyl Boric
Acid Esters ✓

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, 1960, No. 5, pp. 852-856

TEXT: A thorough investigation of the reaction of trimeric metaborate with Grignard reagent in vacuo at low temperature and in the presence of water excess revealed that the formation of dialkyl boric acid esters takes place via the intermediate stage of trialkylborons. At 9 - 9.5 M Grignard reagent 70 - 80% trialkylboron was obtained, i.e.: triisopropyl-, boron, tri-n-butylboron, and triisoamylboron. To check the assumption that the esters of the dialkyl boric acids are formed only by reaction of trialkylborons with alcohol, the afore-mentioned trialkylborons were allowed to react with cyclohexyl-, sec.-octyl- and isoamyl alcohol, and the following compounds were obtained: sec.-octyl ester of the di-iso- ✓

Card 1/3

Organoboron Compounds. 56. Synthesis of Trialkyl-
borons From Metaborates and Their Conversion
Into Dialkyl Boric Acid Esters

81554

S/062/60/000/05/03/008
B004/B066

propyl boric acid, cyclohexyl ester of the diisopropyl boric acid, iso-
amyl ester of the di-n-butyl boric acid, phenyl ester of the diisoamyl
boric acid. The data of these compounds are given in a table. The authors
discuss the course of the reaction between trialkylborons and alcohols
and give the following reaction equations:

$R_3B + R'OH \rightarrow R_3B \leftarrow O \begin{smallmatrix} H \\ R' \end{smallmatrix}$ (Formation of a complex compound (I)). This com-
pound decomposes according to equation (1): $R_3B \leftarrow O \begin{smallmatrix} H \\ R' \end{smallmatrix} \rightarrow R_2BOR' + RH$, or
reacts according to equation (2) to form the complex (II):

$R_3B \leftarrow O \begin{smallmatrix} H \\ R' \end{smallmatrix} \rightarrow R_2BH \leftarrow O \begin{smallmatrix} H \\ R' \end{smallmatrix} + \text{olefin}$. The complex (II) decomposes according
to equation (3): $R_2BH \leftarrow O \begin{smallmatrix} H \\ R' \end{smallmatrix} \rightarrow R_2BOR' + H_2$. The rate of the reactions (1)
and (2) - (3) depends on the nature of the trialkylboron and alcohol
applied. In the case of sec.-octyl alcohol and triisopropylboron the
ratio of the two reaction rates is 1 : 2.5. The reaction with cyclo-
hexanol takes place according to equations (2) and (3), whereas in the
reaction of tri-n-butylboron with isoamyl alcohol both reactions proceed

Card 2/3

Organoboron Compounds. 56. Synthesis of Trialkyl-
borons From Metaborates and Their Conversion
Into Dialkyl Boric Acid Esters

81554

S/062/60/000/05/03/000
B004/B066

with equal rate. As may be seen from the preparation of the phenyl ester
(at 170 - 180°C), the reaction is possible also with phenols. There are
1 table and 8 references: 4 Soviet, 2 German, and 2 American. X

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: November 3, 1958

Card 3/3

CA

6

Synthesis of dichlorotetrapyrrodine cobaltic hexachloroplumbate. A. P. Kapustin and V. A. Yaver (D. I. Mendeleev Chem. Technol. Inst., Moscow). *Izv. Akad. Nauk S.S.S.R., (Mol. Khim. Nauk)* 1951, 611-3. - In the absence of direct data, the heat of the reaction $PbCl_2 + 2Cl^- (gas) = PbCl_4^{2-}$ is estd. on the assumption that the heats of formation of the homologous ions $PbCl_4^{2-}$ and $SnCl_4^{2-}$ stand in the ratio of the logarithms of the at. nos. of Pb and Sn. The heat of formation of the $PbCl_4^{2-}$ ion is thus taken to be 10.5 kcal. The heat of formation Q of a complex hexachloroplumbate M_2PbCl_6 is then calcul. by the usual thermochem. cycle, giv. $\log Q = U_0 + U + E$, where

U_0 = energy of formation of the complex ion from the gaseous ions and addends, and the lattice energies U and U_0 of the simple and of the complex salt, are calcul. with the aid of K.'s equation from the ionic radii r . The result is that, for M_2PbCl_6 , $Q > 0$ if the radius of the cation $r_c > 1.2 \text{ \AA}$. This accounts for the fact that only hexachloroplumbates of NH_4 , K , Rb , and Cs have been described. Salts of large complex cations should be stable, except for readily oxidizable cations, e.g. those contg. $CO(NH_2)_2$, which are unstable on account of the high oxidation potential of Pb^{4+} . A new hexachloroplumbate of a complex cation was synthesized successfully from $[Co(C_4H_7N_4)_2Cl_6] \cdot 6H_2O$ (I) and $H_2[PbCl_4]$ (II). To prep. I, 30 g. $C_4H_7N_4$ was added to 20 g. $CoCl_2 \cdot 6H_2O$ in 30 ml. H_2O ; the resulting dark-blue soln. was treated with a stream of Cl_2 , with the temp. kept below 40° . The yield of dry I, gray-green crystals, is 10 g.; the anhyd. salt is green blue. II was obtained by electrolysis of HCl of d. 1.18 with Pb anodes. A soln. of 2.635 g. I in 150 ml. H_2O reacted with an amt. of II contg. 0.5251 g. Pb, giving green $[Co(C_4H_7N_4)_2Cl_6]_2[PbCl_4] \cdot 6H_2O$ (III), which becomes anhyd. over P_2O_5 . This salt is insol. in dil. inorg. acids, and hydrolyzes slowly in H_2O to PbO_2 .

N. Thon

VAYER, V. A.

The Hofmann reaction with amides of α -bromo-substituted acids. V. M. Kondionov, E. N. Alekseeva and V. A. Yaver (D. I. Mendeleev Chem. Technol. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 1842-5 (1953). — It was shown that best yields of aldehydes are obtained by treatment of amides of α -bromo-substituted acids with alk. hypochlorite with immediate removal of the aldehyde from the mixt. The yield of aldehyde is not improved by substitution of bromo derivs. for chloro derivs. In the reaction of $\text{Et}_2\text{CBrCONH}_2$, Et_2CO is formed instead of aldehydes; the latter forms if a large excess of alkali is employed. *iso-Pr-CHBrCONH_2* (4.5 g.), m. 132°, added to 4 g. NaOH, 35 ml. H_2O , and 1.28 ml. Br and rapidly treated with steam reacted rapidly at 50–70° with foaming and steam distn. of the aldehyde; detn. of aldehyde in the distillate indicated a 42% yield of *iso-Pr-CHO*. Cl was added at –5° to 8 g. NaOH in 70 ml. H_2O until 3.0 g. wt. gain was reached; the soln. was treated with 0 g. above amide and the mixt. steam distd., yielding after repeated steam distn. and salting out, 63% *iso-Pr-CHO*, b. 64.6°; 2,4-dinitrophenylhydrazones, m. 181.5°. *Am-CHBrCONH_2* (5 g.), m. 58°, added to NaOCl soln. prepd. as described above, and the resulting soln. added slowly into a flask through which a current of steam was passed, gave 56% *Am-CHO*, b. 128.31°; 2,4-dinitrophenylhydrazones, m. 101°. $\text{C}_6\text{H}_5\text{CHBrCONH}_2$, m. 56°, (0.5 g.) in 50 ml. MeOH added to soln. of 60 ml. H_2O , 6 g. NaOH, and 2.7 g. Br and the resulting soln. treated as above, gave 1.8 g. product, apparently *CH_3CHO*, m. 70.17°, whose 2,4-dinitrophenylhydrazones m. 107°. Chlorination of BuCHBrCONH_2 at 50° gave BuCHClCONH_2 , b. 131.8°; this treated at –10° with 10% FeO in abs. EtOH 6 h. gave the ppt. of d.k. salt of the Fe^{3+} which was washed and extd. with FeO ; detn. of Fe^{3+} in Fe_2O_3 gave 120.2%, which

heated with PbO , 4 hrs. at 100–5°, and the product treated with NH_3 gave 61% BuCHClCONH_2 , m. 61° (from H_2O). This treated with NaOCl soln., as described above (soln. added slowly to steam distn. app.), gave 65.6% BuCHO , b. 100–2°; 2,4-dinitrophenylhydrazones, m. 93°. $\text{C}_{11}\text{H}_{11}\text{CO}_2\text{H}$ treated with Br in the presence of a little PbO gave 57.5% $\text{C}_{11}\text{H}_{11}\text{CHBrCO}_2\text{H}$, b. 150–65°; this treated with PbO at 85–90°, then 4 hrs. at 110–15°, gave 64% corresponding *acyl chloride*, b. 130–6° which with NH_3 gave 70% amide, m. 60°. The amide in MeOH was added to NaOCl soln. as described above and the resulting soln. slowly dropped into the steam distn. app., yielding 23% $\text{C}_{11}\text{H}_{11}\text{CHO}$, whose 2,4-dinitrophenylhydrazones m. 102°. $\text{Et}_2\text{CBrCONH_2}$ (7.35 g.) in 7.3 g. NaOH, 73 ml. H_2O and 2.7 g. Br was steam distd., yielding 25% Et_2CO , b. 101°; 2,4-dinitrophenylhydrazones, m. 155.5°; if the reaction is run under conditions used for the other amides, the reaction yields much tar and only qual. tests for aldehyde are possible. Treatment of di-Et 2,5-dibromoadipate with 25% NH_4OH gave 2,5-dibromoadipamide, decomp. 183° (from $\text{C}_{11}\text{H}_{11}$), in 60–50% yield. This (15 g.) in 140 ml. H_2O , 16 g. NaOH and 7.2 g. Cl was added slowly to the steam distn. app.; no aldehyde test was given by the distillate, while the amt. of NH_3 reached 65%. The aq. soln. remaining in the flask was concd., cooled, acidified with H_2SO_4 (some NaHSO_4 was added to bind the filtered Br_2), and extd. with FeO , yielding 0.6 g. $\text{CH}_3\text{CO}_2\text{H}$, m. 157.8°.

A. J. J.

BERGEL'SON, L.D.; VAYER, V.A.; BEZZUBOV, A.A.; SHEMYAKIN, M.M.

Unsaturated acids and macrocyclic lactones. Report No.13:
New synthetic path for obtaining the divinylethane system.
Izv. AN SSSR. Ser. khim. no.8:1453-1456 Ag '64.

1. Institut khimii prirodnikh soyedineniy AN SSSR. (MIRA 17:9)

VAVLER, V. A.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 30/62

Authors : Mikhaylov, B. M., and Vavcr, V. A.

Title : Diphenylboric acid and its derivatives

Periodical : Dok. AN SSSR 102/3, 531-534, May 21, 1955

Abstract : Special experiments were made to prove that the statements of German chemists A. Michaelis (1894), and W. Koenig (1930) regarding the synthesis and properties of diphenylboric acid and its derivatives are false. It is the contention of the authors that the basic material and type of reaction as described by the German scientists would rather have led to the formation of diaryl borates and not diphenylboric acid or diphenyl borates. The properties of diphenylboric acid and its derivatives as determined by this experiment prove beyond any doubt that the German chemists did not deal with diphenylboric acid. Five German references (1894-1954).

Institutin : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Presented by: Academician B. A. Kazanskiy, January 11, 1955

Vaver, V. A.

Vaver, V. A.

"The synthesis and transformation of diaryl boric acids." Izv
Sci USSR. Inst of Organic Chemistry imeni N. D. Zelinskiy. Moscow,
1956 (Dissertation for the degree of Candidate in Chemical Sciences)

Knizhnaya letopis'
No. 25, 1956. Moscow

USSR/ Organic Chemistry - Synthetic organic chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11792

Author : Mikhaylov B.M., Vavar V.A. (Communication 8)
Mikhaylov B.M., Shehagoleva T.A. (Communication 9)

Inst : Department of Chemical Sciences, Academy of Sciences USSR

Title : Organic Boron Compounds. Communication 8. Synthesis and Properties of Diaryl-Boric Acids. Communication 9. On Action of Phosphorus Pentachloride on Esters of Dialkyl-Boric and Alkyl-Boric Acids. Synthesis of Dialkyl Boro-chlorides and Esters of Alkyl-Chloroboric Acids.

Orig Pub : Izv. SSSR, Otd, khim. n, 1956, No4, 451-456; 508-509.

Abstract : Communication 8. Description of synthesis of $(\alpha\text{-C}_{10}\text{H}_7)_2\text{BOH}$ (I), $(\text{p-BrC}_6\text{H}_4)_2\text{BOH}$ (II) and $(\text{p-ClC}_6\text{H}_4)_2\text{B(OH).H}_2\text{O}$ (III) and study of the properties of the acids and their derivatives. $(\alpha\text{-C}_{10}\text{H}_7)_2\text{BOC}_4\text{H}_9\text{-iso}$ (IV), $(\text{p-BrC}_6\text{H}_4)_2\text{BOC}_4\text{H}_9\text{-iso}$ (V) and $(\text{p-ClC}_6\text{H}_4)_2\text{BOC}_4\text{H}_9\text{-iso}$ (VI) were

Card 1/6

USSR/ Organic Chemistry - Synthetic organic chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11792

obtained from $(\text{iso-C}_4\text{H}_9\text{O})_3\text{B}$ (VII) and the corresponding aryl-magnesium bromides. IV, V and VI are not hydrolyzed by water and acids and form with alkalies complexes of the type $[\text{Ar}_2\text{B}(\text{OC}_4\text{H}_9\text{-iso})(\text{OH})]\text{Me}$ (VIII).

Salts of VII are converted on heating in aqueous solutions to salts of diaryl-boric acids $(\text{Ar}_2\text{B}(\text{OH})_2)\text{Me}$ (IX). Hydrolysis of IV, V and VI with aqueous solutions of NH_4OH or $\text{Ba}(\text{OH})_2$ results not in salts of di-

aryl-boric acids but in complex salts IX (Me - NH_4 ; Ba/2). Acids I, II and III were obtained on acidification of the salts IX. As a result of treatment of I with excess SOCl_2 was isolated $((\text{C}_{10}\text{H}_7)_2\text{B})_2\text{O}$ (X). Results of the investigation show that literature data on II and III are erroneous. To 1 M ether-benzene solution of 0.5 mole $\text{C}_{10}\text{H}_7\text{MgBr}$ are added at -30° 0.225 mole VII in 50 ml ether. After stirring for 7 hours at -75° , treating the reaction products with 350 ml of 5% HCl , the ether-benzene solution is dried over Na_2SO_4 .

Card 2/6

USSR/ Organic Chemistry - Synthetic organic chemistry

E-2

Abs Jour : Referat Zhyr - Khimiya, No 4, 1957, 11792

Residue after removal of solvents is diluted with isopentane, yield of IV 63%, MP 104-105° (from n-hexane). From filtrate, esterification of remaining iso-C₄H₉OH, were obtained 15% (α -C₁₀H₇)BOC₄H₉-iso, BP 166-168°/6 mm, d_4^{20} 0.9777. To a suspension of 10 g IV in 20 ml CH₃OH are added 15 ml of 30% NH₄OH. Obtained 97.5% $[(\alpha\text{-C}_{10}\text{H}_7)_2\text{B(OH)}_2]\text{NH}_4$ (XI), MP 107-108° (from CH₃OH). Suspension of 4.94 g XI in 30 ml ether acidified with 5 ml HCl (1:1). From ether layer isolated 71.7% I, MP 114.5-115° (from petroleum ether). Solution of 2 g I in 5 ml SOCl₂ boiled 2 hours. After removal excess SOCl₂ obtained 98% X, MP 190-192° (from benzene + petroleum ether). From 0.65 mole p-BrC₆H₄MgBr (1 M solution) and 0.25 mole VII, after stirring for 8 hours at -75°, treatment with 450 ml of 5% HCl and esterification, were obtained 39% V, BP 161-163°/1 mm, (in N₂ current) and 37% p-BrC₆H₄B(OC₄H₉-iso) BP 109-110°/1 mm, d_4^{20} 1.1583. 2.25 g V mixed by shaking with 5 ml 30%

Card 3/6

USSR/ Organic Chemistry - Synthetic organic chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11792

NH_4OH . Yield of $\left[(\text{p-BrC}_6\text{H}_4)_2\text{B}(\text{OH})_2 \right] \text{NH}_4$ (XII) 87.3%, MP 134-135°

(from benzene). From solution of 1.23 g V in 3.65 ml 0.8 N KOH, was slowly driven off, at 60-70°, in a current of N_2 , the water. Residue crystallized from mixture $\text{C}_6\text{H}_6 + \text{CH}_3\text{OH}$. Yield of $((\text{p-BrC}_6\text{H}_4)_2\text{B}(\text{OH})_2\text{K}$

(XIII) 0.8 g. 1.65 g XII treated with dilute HCl, yield of II 86%, MP 90-91° (from petroleum ether). II was also obtained from XIII. After stirring for 8 hours at -75° 0.6 mole $\text{p-ClC}_6\text{H}_4\text{MgCl}$ (1 M solution)

and 0.25 mole VII, treatment with 450 ml 5% HCl and esterification the reaction products are rapidly distilled in N_2 stream. As a result of fractionation isolated 40% VI, BP 134-135°/1²mm, d_4^{20} 1.1414, and 25%

$\text{p-ClC}_6\text{H}_4\text{B}(\text{OC}_4\text{H}_9\text{-iso})_2$, BP 93-95°/1 mm, d_4^{20} 1.0051.1.73 g VI shaken with

15 ml saturated solution of $\text{Ba}(\text{OH})_2$. Obtained 89.5% $\left[(\text{p-ClC}_6\text{H}_4)_2\text{B}(\text{OH})_2 \right]_2\text{Ba}$ (XIV). 2 g XIV treated with 10 ml HCl (1:4). Crystals of III

Card 4/6

MIKHAYLOV, B.M.; VAYER, V.A.

Organoboron compounds. The preparation of complex compounds of
unsymmetric boron triaryls. Dokl. AN SSSR 109 no.1:94-97 J1-Ag '56.
(MLRA 9:10)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk
SSSR. Predstavleno akademikom B.A. Kazanskim.
(Boron organic compounds)

VAVER, V. A.

7
3
4F 11
1 42 38

Vancouver

Distr: LE1j/LE3d/LE2c(j)

10-10-68

—To the complex from 10.01 g. iso- $\text{Al}(\text{OBuPh})_3$ and 3.14 g. pyridine in 10 ml. Et_2O was added 8.75 g. $1\text{-C}_6\text{H}_5\text{Li}\cdot\text{Et}_2\text{O}$ in 50 ml. Et_2O ; after refluxing 4 hrs. the mixt. was washed with H_2O and yielded on evapn. and diln. with MeOH 57.5% $1\text{-C}_6\text{H}_5\text{BPh}_2\cdot\text{C}_6\text{H}_5\text{N}$, decomp. $175\text{--}80^\circ$. Similarly, iso- $\text{Al}(\text{OBuPh})_3$ and $p\text{-MeC}_6\text{H}_4\text{Li}$ gave 77% $p\text{-MeC}_6\text{H}_4\text{BPh}_2\cdot\text{C}_6\text{H}_5\text{N}$ (D), m. $155\text{--}8^\circ$ (dil. MeOH). Also prepd. were 87% $o\text{-MeC}_6\text{H}_4\text{BPh}_2\cdot\text{C}_6\text{H}_5\text{N}$, m. $177\text{--}9^\circ$ (aq. Me_2CO); 91% $(1\text{-C}_6\text{H}_5)_2\text{BPh}\cdot\text{C}_6\text{H}_5\text{N}$, decomp. $215\text{--}17^\circ$; 77% $o\text{-}i\text{-C}_6\text{H}_4\text{BPh}_2\cdot\text{Me}\cdot\text{C}_6\text{H}_5\text{N}$, m. $203\text{--}5^\circ$; 72% $o\text{-}i\text{-}i\text{-C}_6\text{H}_4\text{BPh}_2\cdot\text{Me}\cdot\text{C}_6\text{H}_5\text{N}$, m. not given. To 2.54 g. $1\text{-C}_6\text{H}_5\text{BPh}_2\cdot\text{NH}_3$ was added 1.00 g. Et_2O ; the mixt. gave 53% $p\text{-MeC}_6\text{H}_4\text{BPh}_2\cdot\text{C}_6\text{H}_5\text{N}$, decomp. $189\text{--}91^\circ$ (C_6H_6); similarly was prepd. 42.5% ($p\text{-ClC}_6\text{H}_4$) $_2\text{B}\cdot\text{Ph}\cdot\text{NH}_3$, m. $213\text{--}15^\circ$ (EtOH). 1 with 30% H_2SO_4 in Et_2O under N gave 49% $p\text{-MeC}_6\text{H}_4\text{BPh}_2$, b. $170\text{--}3^\circ$, which solidifies on chilling. The above listed complexes can also be converted to the free R_2B by treatment with dry HCl in Et_2O ; thus was prepd. $p\text{-MeC}_6\text{H}_4\text{BPh}_2$ from the corresponding adduct with NH_3 . Pyrolysis of $(1\text{-C}_6\text{H}_5)_2\text{BPh}\cdot\text{C}_6\text{H}_5\text{N}$ in a sausage flask at $175\text{--}85^\circ$ gave 87.5% $\text{C}_6\text{H}_5\text{N}$ and 45% $(1\text{-C}_6\text{H}_5)_2\text{BPh}$, m. $146\text{--}8^\circ$, b. $239\text{--}40^\circ$. Similarly was obtained $(1\text{-C}_6\text{H}_5)_2\text{BCl}\cdot\text{C}_6\text{H}_5\text{N}$, m. $140\text{--}0^\circ$, b. $197\text{--}9^\circ$. $\text{Ph}_2\text{B}\cdot\text{NH}_3$ in Et_2O treated with dry HCl gave 62.5% Ph_2B ; the pyridine complexes above can also be decomposed to R_2B by picric acid in C_6H_6 .

G. M. Kozlovskii

G. M. Kuznetsov

VAV, V. A.

AUTHORS: Mikhaylov, B. M., Vaver, V. A.,

62-58-4-5/32

TITLE: Boron-Organic Compounds (Bororganicheskiye soedineniya)
Communication 22: On the Mechanism of Hydrolysis of
Diarylboric Esters (Sobshcheniye 22: O mekhanizme gidroliza
efirov diarilbornykh kislot)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk,
1958, Nr 4, pp. 419-424 (USSR)

ABSTRACT: The alkylesters of diarylboric acids are stable against
the effect of hydrolyzing agents, as there are acids and
hydroxides of alkaline metals. On their action the esters
of diarylboric acids dissolve by forming the salts of
diarylalkoxyboric acids (see formula II). Such salts convert
only to a small degree into diarylboric acids (formula IV).
Mainly a cleavage of the elements of water and not of alcohol
takes place (with intermediate diarylalkoxyboric acids).
Then a reconversion of these into the initial ester takes
place (see formula 1-4). The hydrolysis of the esters of
diarylboric acids takes place very easily under the influence
of ammonia dissolved in water (or barium hydroxide). In the

Card 1/3

62-58-4-5/32

Boron-Organic Compounds. Communication 22: On the Mechanism of Hydrolysis of Diarylboric Ester.

previous paper the mechanism of saponification of the esters of diarylboric acid was discussed. In the first reaction stage ammoniacates of the esters of diarylboric acids form with subsequent hydrolysis (formula 7). A second possibility for the formation of ammonium salts of ammoniacates by displacement of ammonia into the outer sphere of the complex with simultaneous formation of diarylalkoxyborates of ammonium does not exist as these compounds can be hydrolyzed (formulae VI,VIII,IX). A number of esters of diarylboric acids and their ammoniacates were synthesized. Furthermore hitherto unknown Di-o-tolyl and Di-p-tolylboric acids and their derivatives were produced.

There is 1 table, and 7 references, 2 of which are Soviet.

Card 2/3

62-58-4-5/32

Boron -Organic Compounds. Communication 22: On the Mechanism of Hydrolysis of Diarylboric Ester_g

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: November 20, 1956

AVAILABLE: Library of Congress

1. Boron compounds 2. Diarylboric esters—Hydrolysis processes

Card 3/3

MIKHAYLOV, B.M.; VAVER, V.A.

Organoboron compounds. Report No.22 Hydrolysis mechanism of the
diarylborates. Izv. AN SSSR Otd. khim. nauk no.4:425-427 Ap '58.
(MIRA 11:5)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii
nauk SSSR.
(Hydrolysis) (Boric acid)

VAVER, V.A.; PROKATOV, N.V.; USHAROV, A.N.; FOLKOV, G.A.; BUCHELOV, I.I.

Chemistry of lipids. Report No.5. Dihydric alcohol derivatives as
new kinds of neutral lipids. Khim. prirod. soed. no.6:491-495 1965.
(MIRA 19:1)

1. Institut khimii prirodnykh soedineniy AN SSSR. Submitted
June 21, 1965.

L 26541-66 EWT(m) RM

ACC NR: AP6017362

SOURCE CODE: UR/0062/66/000/003/0506/0511

AUTHOR: Bergel'son, L. D.; Vaver, V. A.; Barsukov, L. I.; Shemyakin, M. M.

ORG: Institute of Chemistry of Natural Compounds, AN SSSR (Institut khimii prirodnnykh soyedineniy AN SSSR)

TITLE: Stereoregulated synthesis of unsaturated compounds. Report 10. Stereochemistry of the reactions between aldehydes and phosphonate- and phosphinoyl-carbanions

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 506-511

TOPIC TAGS: stereochemistry, organic synthetic process, aldehyde, organic phosphorus compound

ABSTRACT: The reaction between phosphonate- and phosphinoyl-carbanions with aromatic and aliphatic aldehydes leads selectively to the trans-olefins. The steric trend of the reaction does not depend on the polarity of the medium. Orig. art. has: 5 figures and 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 05Nov63 / ORIG REF: 008 / OTH REF: 009

Card 1/1 CC

UDC: 547.64.1 542.91

BERGEL'SON, L.D.; VAVER, V.A.; PROKAZOVA, N.V.

New types of neutral lipids. Dokl. AN SSSR 157 no.1:122-124
Jl '64 (MIRA 17:8)

1. Institut khimii prirodnnykh soyedineniy AN SSSR. Predstavleno
akademikom M.M. Shemyakinym.

VAVER, V.A.; PROKAZOVA, N.V.; BERGEL'SON, L.D.

New types of neutral lipids. Izv.AN SSSR,Ser.khim. no.2:392 ²
'64. (MIRA 17:3)

1. Institut khimii prirodnikh soyedineniy AN SSSR.

BERGEL'SON, L.D.; VAYER, V.A.; BARSUKOV, L.I.; SHEMYAKIN, M.M.

Unsaturated acids and macrocyclic lactones. Report No.11: Total synthesis of cis-8-hexadecenoic, cis-11-hexadecenoic (palmitvaccenic), cis-7-octadecenoic, and cis-9-hexacosanoic acids. Izv.AN SSSR. Ser.khim. no.8:1417-1421 Ag '63. (MIRA 16:9)

1. Institut khimii prirodnikh soyedineniy AN SSSR.
(Hexadecenoic acid) (Octadecenoic acid) (Hexacosanoic acid)

BERGEL'SON, L.D.; VAYER, V.A.; BARSUKOV, L.I.; SHEMYAKIN, M.M.

Stereochemistry and the mechanism of Wittig reaction. Izv. AN SSSR.
Otd.khim.nauk no.6:1053-1063 Je '63. (MIRA 16:7)

1. Institut khimii prirody sovedineniy AN SSSR.
(Stereochemistry) (Wittig reaction)

BERGEL'SON, L.D.; VAVER, V.A.; BARSUKOV, L.I.; SHEMYAKIN, M.M.

Intramolecular acylation of phosphorylides and a new way of
synthesizing α -substituted cyclopentanones. Izv. AN SSSR.
Otd.khim.nauk no.6:1134-1136 Je '63. (MIRA 16:7)

1. Institut khimii prirodnykh soedineniy AN SSSR.
(Cyclopentanone)
(Phosphorus organic compounds)

BERGEL'SON, L.D.; VAVER, V.A.; SHEMYAKIN, M.M.

New method of synthesizing cis-cis-diene-methane systems.
Izv. AN SSSR. Otd. khim. nauk no. 10: 1894-1895 O '62. (MIRA 15:10)

1. Institut khimii prirodnikh soyedineniy AN SSSR.
(Methane) (Butadiene)

BERGEL'SON, L.D.; VAVER, V.A.; BEZZUBOV, A.A.; SHEMYAKIN, M.M.

Unsaturated acids and macrocyclic lactones. Part 3: Using Wittig
reaction for the synthesis of higher fatty acids with a branched
chain. Zhur.ob.khim. 32 no.6:1807-1811 Jr '62. (MIRA 15:6)
(Acids, Fatty) (Wittig reaction)

BERGEL'SON, L.D.; VAVER, V.A.; KOVTUN, V.Yu.; SENYAVINA, L.B.; SHEMYAKIN, M.M.

Unsaturated acids and macrocyclic lactones. Part 2: Stereospecific method for synthesizing natural unsaturated fatty acids with the aid of Wittig reaction. Zhur.ob.khim. 32 no.6:1802-1807 Je '62.

(MIRA 15:6)

(Acids, Fatty) (Wittig ~~reaction~~) (Unsaturated compounds)

BERGEL'SON, L.D.; VAVER, V.A.; BARSUKOV, L.I.; SHEMYAKIN, M.M., akademik

Mechanism and steric course of the Wittig reaction as affected
by external factors. Dokl. AN SSSR 143 no.1:111-114 Mr '62.
(MIRA 15:2)

1. Institut khimii prirodnikh soyedineniy AN SSSR.
(Wittig reaction)
(Stereochemistry)

VAVER, V. A., SHEMYAKIN, M. M., BERGELSON, L. D. (USSR).

"A New Way of Fatty Acid Synthesis."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 August 1961

BERGEL'SON, L.D.; VAVER, V.A.; SHEMYAKIN, M.M.

Effect of the solvent on the steric course of the Wittig reaction.
Izv.AN SSSR Otd.khim.nauk no.4:729-730 Ap '61. (MIRA 14:4)

1. Institut khimii prirodnikh soedineniy AN SSSR.
(Chemical reaction)

89517

S/079/61/031/002/010/019
B118/B208

5.3700

AUTHORS: Mikhaylov, B. M. and Vaver, V. A.

TITLE: Organoboron compounds. LXVII. Reactions of trialkyl borines with organic acids

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 2, 1961, 574-577

TEXT: Following their previous paper (Ref. 1) on the effect of compounds having a mobile hydrogen atom (water, alcohols, phenols, amines, mercaptans, thiophenol) on trialkyl borines, which gives compounds of type (I), and saturated hydrocarbons and H_2 ($R_3B + HYR' \longrightarrow R_2BYR' + RH + R-H + H_2$ (Y = O, NH, S; $R' = H$ or a carbon radical), the authors now investigated the conversions of trialkyl borines on reaction with organic acids. Except for the reaction of acetic acid with triethyl borine giving diethyl boro acetic anhydride and ethane carried out by H. Meerwein, H. Sönke (Ref. 2), no further reactions of this type have been described. The experiments made by these two scientists were repeated, and their data confirmed at equimolecular quantities of the initial products. When the equimolecular quantity

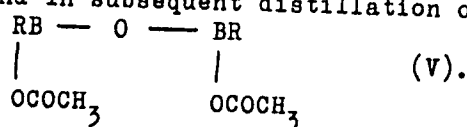
Card 1/3

89517

Organoboron compounds. LXVII. ...

S/079/61/031/002/010/019
B118/B208

of acetic acid is doubled, ethyl pyro-boro acetic anhydride is formed via the monoacetate. The formation of the latter is explained by the fact that the monoacetate is converted to ethyl borate acetic anhydride two molecules of which split off one molecule of acetic anhydride. The synthesis of mixed anhydrides of organopyro-boric and organic acids had been carried out earlier by N. S. Fedotov and T. A. Shchegoleva (Refs. 3-5). Also the higher trialkyl borines react with acetic acid, even at room temperature, with spontaneous heating to 50-60°C; further heating of the reaction mixture between 60 and 100° soon completes the reaction. Contrary to triethyl borine, the higher trialkyl borines react with acetic acid to give the corresponding alkyl pyro-boro acetic anhydrides. At excess acetic acid, n-butyl pyro-boro acetic anhydride (V, R = n - C₄H₉) or isobutyl pyro-boro acetic anhydride (V, R = iso - C₄H₉) result after separation of two moles of the saturated hydrocarbon, and in subsequent distillation of the reaction mixture (Refs. 4, 5):



Card 2/3

89517

Organoboron compounds. LXVII. ...

S/079/61/031/002/010/019
B118/B208

On reaction of chloro acetic acid with tri-n-butyl borine, the anhydrides of n-butyl boric and chloro acetic acids and n-butane result. There are 5 references: 4 Soviet-bloc.

SUBMITTED: March 14, 1960

✓

Card 3/3

MIKHAYLOV, B.M.; VAYER, V.A.

Organoboron compounds. Report No. 56: Synthesis of trialkyl borons from metaborates, and their conversion into esters of dialkylboronic acids. Izv. AN SSSR Otd. khim. nauk no. 5: 852-856 (MIRA 13:6)
My '60.

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Boron organic compounds)

5 (3)
AUTHORS:

Mikhaylov, B. M., Vaver, V. A.

SOV/19-2)-7-31/85

TITLE:

Organoboron Compounds (bororganicheskiye soyedineniya).
XXXVII. Lithium Salts of the Diaryl Boric Acids and Their
Complex Compounds with Dioxane (XXXVII. Litiyevyye soli
diarilbornykh kislot i ikh kompleksnyye soyedineniya s dioksanom)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 2248-2253 (USSR)

ABSTRACT:

In continuation of earlier investigations the authors show that diaryl boric acids react like protonic acids in anhydrous media. Unexpectedly they obtained the lithium salt of di- α -naphthyl boric acid (α -C₁₀H₇)₂BO₂Li (I) as the main product in the reaction of phenyl lithium with di- α -naphthyl boric acid. This salt is formed even more easily from n.-butyl lithium and di- α -naphthyl boric acid in benzene solution (Scheme 2). The reaction of n.-butyl lithium with di-o-tolyl boric acid (Scheme 3) which leads to the formation of a mixture from the lithium salts of di-o-tolyl- and o-tolyl butyl boric acid, is much more complicated. Their formation is explained by the decomposition of compound (III), in contrast to (II), under the separation of butane and toluene. With dioxane in absolutely anhydrous ether

Card 1/3

Organoboron Compounds. XXVII. Lithium Salts of the Diaryl Boric Acids and Their Complex Compounds with Dioxane 304/19-29-1-31/83

it was possible to separate from this salt mixture the pure lithium salt of the di-o-tolyl boric acid in the form of its complex compound with dioxane. The lithium salt of o-tolyl-butyl boric acid could not be separated, its presence, however, was found to be probably due to the resultant per cent content of aryl butyl boric acids, only o-tolyl or p-tolyl lithium were used in the experiments for obtaining the lithium salts of di-o-tolyl and di-p-tolyl boric acid. The necessary individual organolithium compounds were obtained by the reaction of n.-butyl lithium with aryl bromides in benzene dioxane solution and in the form of their crystalline dioxanates (Ref 6). The p-tolyl lithium was synthesized from n.-butyl lithium and tri-p-tolyl antimony (Ref 6). By this method the lithium salt of di-p-tolyl boric acid and the dioxanate of the lithium salt of the di-o-tolyl boric acid were obtained. The dioxanates of the lithium salts of the diaryl boric acids may be synthesized directly by the reaction of lithium compounds with the dioxanates of the diaryl boric acids (e. g. compound (V) according to

Card 2/3

Organoboron Compounds. XXXVII. Lithium Salts of the Diaryl Boric Acids and Their Complex Compounds With Dioxane

SOV/19-29-7-31/83

scheme 5). There are 7 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: June 26, 1958

Card 3/3

5(2,3)
AUTHORS: Mikhaylov, B. M., Vaver, V. A., Bubnov, Yu. N. SOV/20-126-3-32/69

TITLE: Organoboron Compounds (Bororganicheskiye soyedineniya). Reactions Between Boron Trialkyls and Compounds Containing Mobile Hydrogen (Reaktsii bortrialkilov s soyedineniyami, sodержashchimi podvizhnyy vodorod)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 575 - 578 (USSR)

ABSTRACT: The ability of aliphatic boron compounds to undergo the reactions mentioned in the subtitle is very little investigated (Refs 1-6). Triallyl boron possesses, however, an extraordinary sensitivity to the reagents mentioned in the subtitle. It reacts with water, alcohols and amines, even at room temperature. One or two allyl radicals are replaced by corresponding groups. For these reasons, the subject mentioned in the subtitle was of considerable interest. The influence of the nature of initial substances on the rupturing process of the boron-carbon compound could be established. The authors studied the reactions between tri-n-propyl-, tri-isopropyl-tri-n-butyl, tri-isobutyl- and tri-isomethyl-boron on one hand, and water, alcohol, phenol, amines and

Card 1/3

Organoboron Compounds. Reactions Between Boron Trialkyls SOV/20-126-3-32/69
and Compounds Containing Mobile Hydrogen

mercaptans on the other hand. It has been found that higher boron trialkyls react energetically with water at 160-170°. Dialkyl boric acids (I) are formed which are isolated in the distillation as acid anhydrides with yields of 65-71% (Table 1). The reaction is accompanied by the formation of olefine hydrocarbons and hydrogen as well as saturated hydrocarbons (see Scheme). The occurring relative hydrocarbon- and hydrogen quantities depend on the test conditions. Boron trialkyls react under the same conditions with aliphatic alcohols or with phenol. Thus, they form alkyl or phenyl ester of the dialkyl boric acids (II) with yields of 65-80%, as well as saturated and olefine hydrocarbons and hydrogen. These reactions, as well as those of the aliphatic and aromatic amines (III), finally those of the mercaptans (IV), proceed in stages: they run through a stage of complex compounds of boron trialkyls and oxygen-, nitrogen- and sulphur-addenda (V). These compounds (V)(1) undergo two kinds of transformations: a) the complexes decompose into saturated hydrocarbons and corresponding organoboron compounds (VI)(2). It seems here that a proton is removed from the heterogeneously bound atom, and the alkyl group is split

Card 2/3

Organoboron Compounds. Reactions Between Boron Trialkyls SOV/20-126-3-32/69
and Compounds Containing Mobile Hydrogen

off as an anion from the boron atom. b) Olefine hydrocarbon and hydrogen are eliminated and formed (VI) according to scheme (3). This process is most distinctly marked at the interaction of the boron trialkyls with water, alcohol and amines. The transformation of complexes (V) according to scheme (3) is also possible with the formation of dialkyl boranes (VII) which then separate a hydrogen molecule. The above reactions are simple and easy methods of producing the mentioned compounds. There are 1 table and 10 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)
PRESENTED: February 9, 1959, by B. A. Kazanskiy, Academician
SUBMITTED: February 9, 1959

Card 3/3

VAVER, V. A.

AUTHORS: Alekseyeva, Ye. N., Vaver, V. A.

SOV/156-58-3-37/52

TITLE: The Deposition of Phthalimide on the Esters of α -, β -Unsaturated Acids (Prisoyedineniye ftalimida k efiram α , β -nenasyshchennykh kislot)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 545 - 549 (USSR)

ABSTRACT: The possibility of the use of the catalyst of Radionov was investigated in the deposition of phthalimide on the double bonds of the alkalidenemalonic and alkalidenecetoacetic esters, the esters of cinnamic acid and benzene acetone. The reaction takes place effectively for the ethylidene-, propylidene-, isopropylidene-, and benzolidene-malonic esters. The acid hydrolysis of the phthalimide derivatives of the alkylidene malonic esters leads to the corresponding β -amino acids. By employing this method β -aminoisocaproic acid, β -aminobutyric acid, β -aminovaleric acid, and β -amino- β -phenylpropionic acid were synthesized for the first time. There are 2 tables and 6 references, 1 of which is Soviet.

Card 1/2

The Deposition of Phthalimide on the Esters of α -,
 β -Unsaturated Acids

SOV/156-58-3-37/52

ASSOCIATION:

Kafedra organicheskoy khimii Moskovskogo khimiko-
tehnologicheskogo instituta im.D.I.Mendeleyeva (Chair of In-
organic Chemistry at the Moscow Chemical and Technological
Institute imeni D.I.Mendeleyev)

SUBMITTED: November 19, 1957

Card 2/2

BERGEL'SON, L.D.; VAVER, V.A.; SHEMYAKIN, M.M.

New method of synthesizing unsaturated acids. Izv. AN SSSR Otd. khim.
nauk no.10:1900 0 '60. (MIRA 13:10)

1. Institut khimii prirodnikh soedineniy AN SSSR.
(Unsaturated compounds) (Acids, Organic)

MIRNAYLOV, B.M.; V.V.M., V.A.

Organoboron compounds. Part 67: Reactions of boron trialkyls
with organic acids. Zhur. ob. khim. 31 no. 2:574-577, 1961.
(M.I. 14:2)

(Boron organic compounds)

(Acetic acid)

VAVERIAN, V. A.

VAVERIAN, V. A. -- "Crystalline Acting Substances of Branchy Fern -- Dryopteris Dilatata Asa Gray." Latvian State U, 1952. In Latvian
(Dissertation for the Degree of Candidate of Pharmaceutical Sciences)

SO: Izvestiya Ak. Nauk Latviyskoy SSR, No. 9, Sept., 1955

VAVERAN, V. A.

USSR/Cultivated Plants. Medicinal. Essential Oils. Poisons.

M-9

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20572.

Author : V. Vaverane

Inst : Not given.

Title : Some Relative Data on Male and Branchy Ferns.
(Nekotoryye sravitel'nyye dannyye o muzhskom i raskidistom paprotnike).

Orig Pub: Izv. AN LatvSSR, 1956, No 7, 81-88.

Abstract: Investigation of an extract from the male fern has established that its constant constituent parts are flavaspidic and filixic acids. A study of extracts from the branchy fern was made on 10 specimens, collected at different times and in different rayons of the Latvian SSR. It was established that the number of crystallized substances in these extracts depends basically on the place and condi-

Card : 1/2

VAVERANE, V.

(2)

Preparation of liver hydrolyzates and their biological testing. V. Vaverane (Med. Inst. Riga, Latvia). *Latvijas PSR Zinatnu Akad. Vestis* 1954, No. 3 (Whole No. 80), 71-7 (Russian summary, 77-8).—A mixt. of 750 g. ground liver and 4500 ml. 0.01 M H_2PO_4 was autolyzed under toluene for 24 hrs. at 42°. The hydrolysis was completed within next 24 hrs. with 100 mg. % pepsin at pH 1.5-2 and same temp. The hydrolyzate was filtered, concd. by evaporation, neutralized with $NaHCO_3$ to pH 6.8, and sterilized. The product contained 6 mg. of amino N, and 9.27 total N per ml. Introduced intravenously, it was not pyrogenic and did not influence the activity of the proteolytic blood enzymes. The cattle liver autolyzed more easily than that from hogs. The autolysis product showed pinkish coloration in the biuret test. Andrew Dravnieks

VÄVERANE, V.

U S S R .

Capillary (paper chromatography) and uminescence analysis of fern extracts and their components. V. Väverane. Latvian PSR Zinātnu Akad. Vēstis 1954, No. 30 (Whole No. 87), 85-91 (Russian summary, 91).—Filter paper chromatograms of exts. from *Dryopteris dilatata* (I) and *D. filix-mas* (II) differed, especially under ultraviolet radiation. Fluorescence of I was bright-red; of II, dark-red with green.

Is that. The following compds. were isolated from I, with the following fluorescence colors: aspidin, orange-red; aspidinin, carmine-red; albaspidin (III), purple-red; flavaspidic acid, red; nephrodin, yellow-red. Each behaved as an individual compd. These substances retained red fluorescence in alk. solns., except III. Filmarone behaved as a mixt. Raw filicin had red fluorescence. A. D.

NEYLAND, O.; VAVERE, M.

Synthesis of the system 1,3,5,7-tetraketo-a-hydrindacene.
Zhur.ob.khim. 33 no.3:1044-1045 Mr '63. (MIRA 16:3)

1. Rzhskiy politekhnicheskii institut.
(Hydrindacene) (Carbonyl group)

VAVLEKHA

Some Special Types of Russian Mail Orders - Laundry Bags
There are 2

4E25

B

VAVERKA, J.

Replacement work on continuous rails.

P. 85 (Železniční Technika) Vol. 5, No. 4, Apr. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

VAVRKA, J.

Dilation contacts of "long" rails.

p. 298 (Železniční Technika. Vol. 5, no. 11, Nov. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EMAI) IC. Vol. 7, no. 2,
February 1958

VAVERKA, Josef, prof., inz., dr., Dr.Sc.

Dilatation of rails of non-contact railway track in a frozen bed.
Zel dop tech 10 no. 3:71-75. '62.

VAVERKA, J., inz. dr.

Further trends in the development of railroad bed maintenance
Zel dop tech 12 no.12:315-316 '64.

VAVERKA, J.

Continuous rails. p. 321. (NOVA TECHNIKA, Vol. 1, No. 11, Nov 1956, Praha, Czechoslovakia)

CO: Monthly List of East European Accessions (MEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

CZECHOSLOVAKIA
25 Sep 63

VAVERKA, Jan

Chairman, Commission for Construction, North Moravian
Kraj National Committee in Ostrava, author of an
article on the situation in the construction in
Ostrava Okres.

Nova Svoboda, Ostrava, 25 Sep 63, p 2.

(1)

VAVERKA, J.; POSPICHALOVA, D.; CIRLIC, J.

Degree of wrinkle resistance. p. 88.

TEXTIL. (Ministerstvo lehkeho prumyslu) Praha, Czechoslovakia. Vol. 14,
no. 3, March 1959.

Monthly List of East European Accessions (EFAI) LC, Vol. 8, No. 11,
November 1959.

Uncl.

STANEK, Karel; VAVERKA, Miroslav, inz.

Experience with the construction of the press shop in the
enterprise Zavody na vyrobu kulickovych lozisek. Poz stavby
II no.1:24-26 '63.

1. Ingstav, Brno.

SIMIONESCU, T., ing.; VAVERNIA, L., ing.

Influence of some parameters of card setting upon the quality of yarns produced in woolen spinning. Ind text Rum 14 no.1: 16-21 Ja '63.

1. Institutul de cercetari textile.

KAPLAN, Pafael' Markovich, kand.tekhn.nauk; VAVILIN, Dmitriy Vasil'yevich,
inzh.-mekh.; GAMBURG, Yefim Moiseyevich, inzh.-mekh.; SHVIDKO, Z..
red.; NAGIBIN, P., tekhn.red.

[Mechanization of production processes on dairy farms] Mekhani-
zatsiia proizvodstvennykh protsessov na MTF. Alma-Ata, Kazakhskoe
gos. izd-vo, 1958. 172 p. (MIRA 11:12)
(Dairying) (Farm equipment)